

Notice of Allowability

Application No.

09/690,474

Examiner

Binh-An D. Nguyen

Applicant(s)

MIYAMOTO ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment and Remarks filed 2/24/2004.
2. ☒ The allowed claim(s) is/are 2,3,5-12 and 14-19.
3. ☒ The drawings filed on 10 September 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

REASONS FOR ALLOWANCE

1. Applicant's remarks filed February 24, 2004 have been found persuasive.

The limitations of a swing measurement method for measuring a swing behavior during a swing with an impact implement grasped on a grip portion thereof, comprising the steps of: fixing a three dimensional magnetic sensor to the grip portion of the impact implement; forming magnetic fields, each distribution of intensity and direction thereof being known, within a range of motion of the grip portion, so that the three dimensional magnetic sensor senses magnetism of each of the formed magnetic fields for outputting signals corresponding to three dimensional position of the grip portion with respect to a predetermined point, and to pointing direction of the grip portion with respect to a predetermined direction, and acquiring at least one of three dimensional position coordinates data of the grip portion and pointing direction data of the grip portion from the output signals; and further wherein: the three dimensional magnetic sensor fixed to the grip portion has three mutually orthogonal axes for sensing; one direction of an axis from among the three mutually orthogonal axes being aligned with a direction of an axis of a shaft of the golf club; and one direction of an axis from among the other two axes being aligned with an impact direction of the golf club (as per claim 2), in combination with other presented limitations, are neither disclosed nor taught by the art of record.

Further, the limitations of a golf swing analysis method and a computer program code embodied in a computer readable medium for analyzing a swing behavior of a golf club comprising: calculating a swing plane, on which a swing path of the grip portion is

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approximated, from the time sequence data of the three dimensional position coordinates of a grip portion of the golf club; projecting the swing path of the grip portion on a swing plane and approximating the projected swing path as an arc to obtain the arc as a swing path arc of the grip portion to obtain: arm angle time sequence data of an arm angle showing a position of the grip portion on the swing plane from the time sequence data of three dimensional position coordinates and the swing path arc; and at least one time sequence data from the group consisting of: wrist angle time sequence data of a wrist angle found based on a shaft direction angle obtained from the pointing direction of the grip portion and showing a shaft direction of the golf club on the swing plane, and rotation angle time sequence data of a shaft rotation angle, around a shaft axis of the golf club, from the pointing direction (as per claims 6 and 14), in combination with other presented limitations, are neither disclosed nor taught by the art of record.

Claims 2, 3, 5-12, and 14-19, therefore, are allowable.

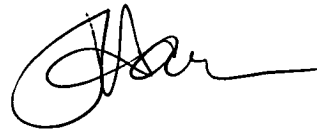
2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh-An D. Nguyen whose telephone number is 703-305-5713. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jessica Harrison can be reached on 703-308-2217. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BN

A handwritten signature in black ink, appearing to read 'J. Harrison', with a stylized, cursive script.

JESSICA HARRISON
PRIMARY EXAMINER